



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/684,819	10/15/2003	Atsushi Miyazaki	3693-46	9868
23117	7590	06/14/2005	EXAMINER	
NIXON & VANDERHYE, PC 901 NORTH GLEBE ROAD, 11TH FLOOR ARLINGTON, VA 22203			TOLEDO, FERNANDO L	
			ART UNIT	PAPER NUMBER
			2823	

DATE MAILED: 06/14/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

H'D

Office Action Summary	Application No. 10/684,819	Applicant(s) MIYAZAKI ET AL.	
	Examiner Fernando L. Toledo	Art Unit 2823	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 April 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) 9-15 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 24-30 is/are allowed.
- 6) ☒ Claim(s) 1-5, 8 and 18-20 is/are rejected.
- 7) ☒ Claim(s) 6, 7, 16, 17 and 21-23 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 March 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>20031015</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Claims 9 –15 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 6 April 2005.
2. Applicant's election without traverse of claims 1 – 8 and 16 – 30 in the reply filed on 6 April 2005 is acknowledged.

Drawings

3. Figures 33 and 34 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the Examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

Art Unit: 2823

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1 – 5, 8, 18 and 20 are rejected under 35 U.S.C. 102(b) as being anticipated by Applicant's Admitted Prior Art (AAPA).

In re claim 1, AAPA discloses a process chamber 5 in which a target substrate 4 is installed; a gas inlet (Figure 34) for introducing a gas into the process chamber; and a plasma discharge production section provided in the process chamber wherein the plasma discharge production section includes a first electrode 2a and a second electrode 2b that is closer to the target substrate than the first electrode is, and only the surfaces of the first and second electrodes which can be seen in the normal line direction of the target substrate functions as a plasma discharge surface (Figure 34).

6. In re claim 2, AAPA discloses a process chamber 5 in which the target substrate 4 is installed; a gas inlet (Figure 34) for introducing gas into the process chamber; and a plasma discharge production section provided in the process chamber, wherein the plasma discharge production section includes a first electrode 2a, an insulating layer formed on a portion of an electrode surface of the first electrode, and a second electrode formed on the insulating layer (Figure 34).

7. In re claim 3, AAPA discloses wherein the gas inlet is provided at the first electrode (Figure 34).

8. In re claim 4, AAPA discloses wherein the first electrode has a concave plasma discharge surface (Figure 34).

Art Unit: 2823

9. In re claim 5, AAPA discloses wherein the area of a plasma discharge surface of the first electrode is larger than that of the second electrode (Figure 34).
10. In re claim 8, AAPA discloses further including a power source for applying electric energy to the first and second electrodes, wherein the frequency of the power source is equal to or higher than 100 kHz and equal to or lower than 300 MHz (Figure 34).
11. In re claim 18, AAPA discloses wherein a plasma discharge surface of the first electrode has several cavities (Figure 34).
12. In re claim 19, AAPA discloses wherein a gas inlet is formed in a bottom of at least one of the cavities (Figure 34).

Claim Rejections - 35 USC § 103

13. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

14. Claim 20 is rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over AAPA.
15. Initially, and with respect to claim 20, note that a “product by process” claim is directed to the product per se, no matter how actually is made. See In re Thorpe et al., 227 USPQ 964 (CAFC, 1985) and the related case law cited therein, which makes it clear that it is the final product per se which must be determined in a “product by process” claim, and not the patentability of the process, and that, as here, an old or obvious product produced by a new

Art Unit: 2823

method is not patentable as a product, whether claimed in “product by process” claims or not.

As stated in Thorpe,

...even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. *In re Brown*, 459 F.2d, 531, 535, 173 USPQ 685, 688 (CCPA 1972); *In re Pilkington*, 411 F.2d 1345, 1348, 162 USPQ 145, 147 (CCPA 1969); *Buono v. Yankee Maid Dress Corp.*, 77 F.2d 274, 279, 26 USPQ 57, 61 (2d. Cir. 1935).

Note that Applicant has burden of proof in such cases as the above case law makes clear.

16. In re claim 20, it is noted that AAPA shows all aspects of the plasma process apparatus according to the instant invention (see paragraph 5) and that the step of wherein a plasma discharge surface of the first electrode is sandblasted are/is an intermediate step(s) that does not affect the structure of the final device.

17. As to the ground of rejection under §103(a), see MPEP §2113, which discusses the handling of “product-by-process” claims and recommends the alternative (§102/§103) grounds of rejection.

Claim Objections

18. Claims 6, 7, 16, 17 and 21 – 23 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Allowable Subject Matter

19. Claims 24 – 30 are allowed over the prior art of record.

Art Unit: 2823

20. The following is a statement of reasons for the indication of allowable subject matter: AAPA alone or in combination does not teach, disclose or suggest “wherein the plasma discharge production section includes a plurality of insulators arranged in a stripe pattern extending along a direction parallel to the target substrate, first electrodes provided in at least areas between the adjacent insulators, and second electrodes provided at ends of the insulators which are closer to the target substrate such that the second electrodes are separated from the first electrodes.” AAPA shows the second electrode opposite of the first electrode with the target substrate on the second electrode.

21. Japanese Patent 11-144892 shows first and second electrode at the same distance to the target substrate. Therefore the claimed invention as a whole is neither anticipated nor rendered obvious over the prior art of record.

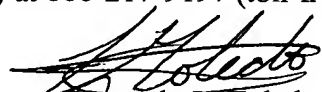
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Fernando L. Toledo whose telephone number is 571-272-1867. The examiner can normally be reached on Mon-Thu 9am to 7:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Olik Chaudhuri can be reached on 571-272-1855. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2823

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Fernando L. Toledo
Examiner
Art Unit 2823

flt
10 June 2005